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REMARKS

Claims 1, 5, 8, 9, 11, 12, 16, 19, 20, and 29 are pending in the application. Claim 1 was amended to indicate that the first resin film contains a weather-resistant film comprising resins selected from the group consisting of styrene-based resins, polycarbonate resins, and combinations thereof, and the second resin film contains a weather-resistant film comprising resins selected from the group consisting of styrene-based resins, polycarbonate resins to more particularly claim the invention. The amendment is supported at page 6, lines 15-26 of the specification.

Request for Information

The Examiner requested a copy of Japanese Industrial Standard K-7111 in order to understand how "Charpy" impact strength should be applied. Applicants attach hereto the front page of JIS K-7111, which reads in part:

Introduction: This standard is Japanese Industrial Standard prepared by translating **ISO 179:1993** (Plastics-Determination of Charpy impact strength) without any modification of technical content and form of the standard sheets. This is prepared without any modification except for the following content.

... **[Summary of different points of content]** ...

Prior Japanese Industrial Standard which describes the method of Charpy impact test regarding hard plastics is described in **Annex 1-4**.

Thus, as used in the present invention, the term "Charpy" impact strength has the standard meaning that one skilled in the art would understand, the value determined according to ISO 179.

35 U.S.C. § 103 Rejections

Claims 1, 5, 8, 9, 11, 12, 16, 19-20 and 29 stand rejected under 35 U.S.C. § 103(a) as being obvious over JP 11-309813 (hereinafter "JP '813") in view of United States Patent No. 3,810,815 to Welhart et al. (hereinafter "Welhart"). The Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time Applicants' invention was made to have modified JP '813 by replacing the single layered base with a multilayered film of PMM and polycarbonate as taught by Wellhart in order to replace the use of either a single polycarbonate layer or a single polymethyl methacrylate film layer such that the multilayered structure achieved the advantages of both acrylic and polycarbonate including weatherability and impact resistance.

The present invention is directed to a hard coat film that includes a silicone-based hard coat layer provided on one side of a multi-layered base having a total thickness of 350 μm or less and consists of a plurality of the same first resin film and one or more of a second different resin film laminated applied to the external surfaces of window panes or plastic boards for windows. The first resin film contains a weather-resistant film containing resins selected from styrene-based resins, polycarbonate resins, and combinations thereof, and the second resin film contains a weather-resistant film containing resins selected from styrene-based resins, polycarbonate resins, and combinations thereof. Further, one of the first resin film and the second resin film is an impact-resistant film having a Charpy impact strength of at least 10 kg-cm/cm².

JP '813 discloses a hardcoat film layer manufactured by laminating a UV-ray cutting layer and a hardcoat layer containing a silicon compound having a siloxane combination on one surface of a transparent base material film. The transparent base material film can be selected from a transparent plastic film, such as a film of polyethylene, polypropylene, PET, PC, acrylic resins, polyester resins, polyurethane resins and butyral resins.

Welhart discloses a transparent laminate formed by diffusion bonding at least one layer of acrylic resin sheet to a layer of polycarbonate resin in the presence of heat and pressure so as to form a clad polycarbonate. The bonding may or may not be effected in an evacuated atmosphere. Welhart does not disclose applying the laminate to glass.

In the present invention, Applicants sought to solve problems in prior art outdoor window films such as insufficient surface hardness and impact resistance, as well as preventing the scattering of broken glass fragments (page 3, lines 7-25 of the specification). While addressing these problems, Applicants discovered the presently claimed hard coat film, which is applied to the external surfaces of windowpanes.

Welhart does not disclose the multi-layered base of the present invention. The thickness of the laminate of Welhart is thicker than that of the present invention (see examples in Welhart). Further, the laminate of Welhart comprises a layer of polycarbonate resin and a layer of cast polymethyl methacrylate (see claim 1 of Welhart). However, as now amended, the present claims no longer include polymethyl methacrylate. Since Welhart does not disclose a multi-layered base as in the present claims, which does not include polymethyl methacrylate, the combined teachings of

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JP '813 and Welhart do not render the present invention as recited in the amended claims obvious, and the rejection under 35 U.S.C. 103(a) should be withdrawn.

Because no combination of JP '813 and Welhart disclose, suggest or in any way motivate a skilled artisan to use a silicone-based hard coat layer on one side of the multi-layered base in the amended claims, the cited references can not render the claims obvious. Therefore, the rejection of claims 1, 5, 8, 9, 11, 12, 16, 19-20 and 29 under 35 U.S.C. § 103(a) should be withdrawn.

Conclusion

Applicants assert that the claims are now in form for allowance. Based on the foregoing amendments and remarks, reconsideration of the rejections and allowance of claims 1, 5, 8, 9, 11, 12, 16, 19, 20, and 29 are respectfully requested.

Respectfully submitted,

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日本工業規格

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プラスチック—シャルピー衝撃強さの 試験方法

Plastics—Determination of Charpy impact strength

序文 この規格は、ISO 179:1995 (Plastics—Determination of Charpy impact strength) を翻訳し、技術的内容及び規格票の様式を変更することなく作成した日本工業規格である。以下の規定内容を除いて技術的内容を変更することなく作成している。

【規定内容の相違点の概要】

従来日本工業規格で規定していた硬質プラスチックのシャルピー衝撃試験方法について附属書 1~4 で規定した。

1. 適用範囲

1.1 この規格は、定められた条件下でのプラスチックのシャルピー衝撃強さを試験する方法について規定する。この規格では多くの種類の試験片タイプを規定している。試験片タイプやノッチタイプは、材料規格に規定されている。

1.2 この試験方法は、定められた固有な衝撃条件のもとで試験片の挙動及び規定された試験片のぜい(脆)性又はじん(韌)性を評価する目的に使用される。この試験方法は、ISO 180—アイゾット衝撃強さの試験方法より広い範囲に適用し、層間せん断破壊を示す材料やその環境要因の影響を受ける材料により適用している。